ABSTRACT

A three dimensional structure is precisely positioned at a desired location. A virtual model of the structure of interest is created and stored in a computer memory. Some time

5   later, remote sensors are placed in selected positions on the structure of interest. The sensors are configured so as to provide real time location, attitude and orientation information regarding the structure and may consist of GPS remote units, tilt meters, gyro compasses, and pressure sensors. The position of each the remote sensors on the actual structure is also recorded in the computer memory so that the virtual model accurately reflects the

10   configuration of the structure. As the structure is being positioned, the real-time location, attitude and orientation information produced by the remote sensors is monitored at a base station and used to update the virtual model. In this way, the virtual model accurately reflects the current location, attitude and orientation of the structure. The information so obtained can be displayed to a user as a graphical and textual representation of the current state of the

15   structure. The desired location, attitude and orientation of the structure is also displayed, thereby allowing a user to adjust the current location, attitude and orientation of the structure so as to align the current position of the structure to desired position. As built reports are produced upon completion of the positioning operation.

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